

## **REMARKS**

Claim 1 has been amended in this application. The description of the relationship and relative position between the first part, the second part and the third part of the channel is added in order to make Claim 1 clear and in order to provide the limitations in Claim 1 on location. The limitation in Claim 1 of “said first part of said channel is substantially external to said second part of said channel” has been deleted in order to overcome the Section 112 rejection. In addition, any grammar errors or mistyped words have been amended in this response. The specification of the present invention has been amended to be consistent with these claims.

Applicants respectfully requests reconsideration in light of the following remarks.

### **CLAIM REJECTIONS- 35 U.S.C. SECTION 112, second paragraph**

Claims 1, 3-9, 11-20, and 22-25 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Examiner is of the opinion that claim 1 is not clear what is meant by the first part of the channel is “substantially external” to the second part of the channel. It is because one part of a channel can not be external to another part of the same channel.

In claim 1, the allegedly unreasonable limitation “said first part of said channel is substantially external to said second part of said channel” has been deleted in order to fit Claim 1 for the request of 35 U.S.C. SECTION 112, second paragraph. And the description of the relationship and relative position between the first part, the second part

and the third part of the channel is added in order to make Claim 1 clear and in order to provide the limitations in Claim 1 on location.

Therefore, the rejection of Claim 1, 3-9, 11-20, and 22-25 can be traversed by foregoing amendment.

#### **CLAIM REJECTIONS- 35 U.S.C. SECTION 102**

Claims 1 and 3-5 stand rejected under 35 U.S.C. 102(e) as being anticipated by Cheng et al.(USPN 6,465,308).

The Examiner is of the opinion that the cover figure of Cheng et al. shows all elements recited in claim 1, for example, a p type semiconductor bulk substrate 22, a first doped region of  $n^+$  type 26, a second doped region of  $n^+$  type 28, a channel 30 extends between 26 and 28, “the first gate segment” 38, and “first field oxide stripe” 24. And the Examiner think that the “first part of said channel region” can be read on the part of the channel extending from drain 26 to the center of the channel and “third part of said channel region” can be read on the part of the channel extending from source 28 to the center of the channel with broadest reasonable interpretation of claim 1, and “first field oxide stripe” 24 is formed over the first part of the channel, and all parts of the “the first gate segment” 38 overlap the “first field oxide stripe” 24. But it is not real. Besides, the Examiner is of the opinion that the third region could be associated with any part, because no limitations are provided in these claims on the location for function of this region.

To view claim 1, 3-4 and 9-11, Fig. 5A, Fig. 6A, and the specification of the present invention, the channel of the present invention is located between the first doped

region and the second doped region, and the channel comprises a first part, a second part, and third part, wherein the first part and the third part of the channel are the two ends of the channel respectively. Furthermore, the second part of the channel is located between the first part and the third part of the channel (the two ends of the channel), and it forms a first continuous part of the channel and a second continuous part of the channel with the first part of the channel and the third part of the channel respectively. In the present invention, a gate segment is formed over the first part of the channel, or third part of the channel, or both. In other words, the first gate segment and the second gate segment are formed over the two ends of the channels (the first part, and the third part), and the first field oxide stripe is formed only over the second part of the channel. Besides, according to claim 1 and 9, Fig. 5A, Fig. 6A, and the specification of the present invention, the first gate segment and the second gate segment form over the first part of the channel and the third part of the channel respectively. And both of them overlap the different ends of the first field-oxide stripe respectively. In other words, there are only one end of the first gate segment and only one end of the second gate segment overlap the different ends of first field oxide stripe respectively, but not all parts of the first gate segment and all parts of the second gate segment.

However, according to the cover figure and the specification of Cheng et al., “the first field oxide stripe” 24 covers all parts of the channel 30, and all parts of “the first gate segment” 38 overlaps “the first field oxide stripe” 24. It makes the Cheng et al. different from the present invention. Thus, the structure of ESD protection device of the present invention is different from the structure of ESD protection device of Cheng et al., and the present invention isn’t disclosed by the Cheng et al.. In the application, Claim 1 have been amended to depicted the above-mentioned feature to show what is the difference between the present invention and Cheng et al.. Besides, the description of the relationship and relative position between the first part, the second part and the third part

of the channel is added in order to make Claim 1 clear and in order to provide the limitations in Claim 1 on location. It makes Claim 1 to illustrate the device of the present invention clearly, and provides limitation of the three part of the channel. Therefore, according to above interpretation and amendment, the rejection of the claim 1 and 3-5 can be traversed.

#### **CLAIM REJECTIONS- 35 U.S.C. SECTION 103**

Claims 6-9, 11-13 and 26 stand rejected under 35 U.S.C. 103(a) as being anticipated over Cheng et al. in view of Lin et al., 6,574,568.

The Examiner is of the opinion that Lin et al. has disclosed or taught the type of islands, the position of the islands, the second gate segment, the position of the second gate segment, and etc.. But it is not real.

To view the Lin et al., although two type of islands (20a and 20b) are disclosed by Lin et al., but both of the island 20a and the island 20b have polysilicon-over-oxide. All difference between the island 20a and the island 20b is the thickness of the gate oxide. However, according to claim 6 –8 and 26 and specification of the present invention, there are two type of islands which are formed over the bulk and encircled by the first doped region; one type of islands have polysilicon-over-oxide and another type of islands have field-oxide. Thus, the Lin et al. only discloses the type of the islands having polysilicon-over-oxide, but don't mention and teach another type of islands having field-oxide. Thus, according to above interpretation and amendment, the rejection of the claim 6-8 and 26 can be traversed.

The Examiner is of the opinion that 40D recited in the Lin et al. is the “second

gate segment” recited in claim 9 and 11 of the present invention. However, to view the figures and the specification of the Lin et al., 40D does not exist in any figures or any paragraph of the specification. Thus, it is impossible that the “second gate segment” recited in claim 9 and 11 is disclosed and taught by Lin et al. Thus, according to above interpretation and amendment, the rejection of the claim 9 and 11 can be traversed.

According to above interpretation and amendment for “CLAIM REJECTIONS- 35 U.S.C. SECTION 102”, the structure of ESD protection device of the present invention is different from the structure of ESD protection device of Cheng et al. It is because that the first field oxide stripe is formed only over the second part of the channel and the first gate segment and the second gate segment overlap the two ends of the first field oxide stripe, but all parts of first field oxide stripe. However in Cheng et al, “the first field oxide stripe” 24 covers all parts of the channel 30, and all parts of “the first gate segment” 38 overlaps “the first field oxide stripe” 24. Therefore, what recited in claim 1 is not disclosed by Cheng et al and the structure of ESD protection device of the present invention can not be disclosed or taught even the Cheng et al. is combined with the Lin et al. According to above interpretation and dependency of claim 1, the rejection of the claim 6-9 and 11-13 can be traversed.

### **Conclusion**

In the light of the above amendments and remarks, Applicant respectfully submits that all pending Claims 1, 3-9, 11-20, and 22-26 as currently amended are in condition for allowance. Accordingly, reconsideration is respectfully requested.

Respectfully submitted,

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